



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,422	11/28/2003	Takeshi Kijima	117897	7385

25944 7590 08/23/2005

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

KENNEDY, JENNIFER M

ART UNIT	PAPER NUMBER
----------	--------------

2812

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,422

Applicant(s)

KIJIMA ET AL.

Examiner

Jennifer M. Kennedy

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) 2,3 and 10-30 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1, 4-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 28 June 2004 and 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/22/2004
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1, 4-9 in the reply filed on June 1, 2005 is acknowledged.

Claims 2-3, 10-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention or specie, there being no allowable generic or linking claim.

The examiner notes that Applicant's arguments are moot in view of the election without traverse.

Claim Objections

Claim 7 is objected to because of the following informalities: the acronym MOD should be followed by the words that it represents. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2812

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lu (U.S. Patent No. 6,143,366).

Lu discloses a method of manufacturing a ceramic film, comprising:
crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen at a volume ratio of 10% or less (see column 5, line 50 through column 6, line 21 and column 6, line 45-63, Example 1, Example 2, Example 5 and Example 6).

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Engelhardt et al. (U.S. Patent No. 6,730,562).

Engelhardt et al. discloses a method of manufacturing a ceramic film, comprising:
crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen at a volume ratio of 10% or less (see column 7, line 10 through column 8, line 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2812

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (U.S. Patent No. 6,143,366) in view of Ashizawa et al. (U.S. Patent No. 6,407,010).

Lu discloses the method as claimed and rejected above, including the method wherein the complex oxide includes Pb in constituent elements (see Example 5) and wherein the temperature is raised to 100 °C (see column 5, lines 63-66), but does not disclose the method wherein the pressurizing occurs before raising a temperature.

Ashizawa et al. disclose the method of controlling the pressure in order to raise or lower the temperature, such that the pressure is raised prior to raising the temperature, and the pressure would be lower prior to reducing the temperature (see column 6, lines 56 through column 7, line 15 and column 8, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Ashizawa et al. in the method of crystallizing of Lu, because as Ahizawa et al. disclose the method of changing the pressure to control the temperature allows for two processes with different process temperatures, such as the pyrolysis and crystallization of Lu to be performed quickly in on e process chamber without decreasing the throughput.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (U.S. Patent No. 6,143,366) in view of Kobayashi et al. (U.S. Patent Appl. 2004/0125176).

Lu discloses the method as claimed and rejected above, including utilizing a sol gel method, but does not disclose the method wherein the raw material is a mixture of a sol-gel raw material and an MOD raw material, the sol-gel raw material including at least one of a hydrolysate and a polycondensate of the complex oxide, and the MOD raw material including constituent elements of the complex oxide in an organic solvent and wherein the raw material includes the complex oxide and a paraelectric material having a catalytic effect on the complex oxide and wherein the paraelectric material includes an oxide which includes Si or Ge in constituent elements or an oxide which includes Si and Ge in constituent elements. Kobayshi et al. disclose the method wherein the raw material is a mixture of a sol-gel raw material and an MOD raw material, the sol-gel raw material including at least one of a hydrolysate and a polycondensate of the complex oxide, and the MOD raw material including constituent elements of the complex oxide in an organic solvent and wherein the raw material includes the complex oxide and a paraelectric material having a catalytic effect on the complex oxide and wherein the paraelectric material includes an oxide which includes Si or Ge in constituent elements or an oxide which includes Si and Ge in constituent elements [see [0006-0007], [0025] and [0041-0042]]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the sol gel process of Kobayashi et al. in the method of Lu in order to purify the piezoelectric to obtain uniform electrical characteristics (see Kobayashi et al. [0010])

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu (U.S. Patent No. 6,143,366) in view of Ito et al. (U.S. Patent No. 5,520,855)

Lu discloses the method as claimed and rejected above, including utilizing a sol gel method, but does not disclose the method wherein the raw material is a mixture of a sol-gel raw material and an MOD raw material, the sol-gel raw material including at least one of a hydrolysate and a polycondensate of the complex oxide. Ito et al. discloses the method wherein the raw material is a mixture of a sol-gel raw material and an MOD raw material, the sol-gel raw material including at least one of a hydrolysate and a polycondensate of the complex oxide, and the MOD raw material including constituent elements of the complex oxide in an organic solvent (see column 5, lines 5-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the sol gel process of Ito et al. in the method of Lu because as Ito et al. teaches this is a well known sol gel process to form a metal oxide.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (U.S. Patent No. 6,150,183) in view of Iizuka (U.S. Patent No. 6,338,996).

In re claim 1, Fukuda et al. discloses a method of manufacturing a ceramic film, comprising:

crystallizing a raw material including a complex oxide by subjecting the raw material to a heat treatment in an atmosphere pressurized to two atmospheres or more and containing oxygen (see column 6, line 10 through column 7, line 5).

Fukuda et al. does not disclose the method wherein the metal oxide is crystallized at a volume ratio of oxygen of 10% or less. Iizuka discloses the method of crystallizing the metal oxide at a volume ratio of oxygen of 10% or less (see column 5, lines 10-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize 10% or less of oxygen in the method of Fukuda, because as Iizuka teaches it will prevent peel off.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda et al. (U.S. Patent No. 6,150,183) and Iizuka (U.S. Patent No. 6,338,996) in view of Ashizawa et al. (U.S. Patent No. 6,407,010).

Fukuda et al. and Iizuka disclose the method as claimed and rejected above, but does not disclose the method wherein the pressurizing occurs before raising a temperature.

Ashizawa et al. disclose the method of controlling the pressure in order to raise or lower the temperature, such that the pressure is raised prior to raising the temperature, and the pressure would be lower prior to reducing the temperature (see column 6, lines 56 through column 7, line 15 and column 8, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the method of Ashizawa et al. in the method of crystallizing of the combined Fukuda et al. and Iizuka, because as Ashizawa et al. disclose the method of changing the pressure to control the temperature allows for two processes with different process temperatures, such as the sputtering and crystallization of Lu to be performed quickly in one process chamber without decreasing the throughput.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 and 4-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/793,889. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of either teach or suggest all of the limitations of the instant application's claim 1 and 4-9.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 1 and 4-9 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/808,417. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of either teach or suggest all of the limitations of the instant application's claim 1 and 4-9.

Art Unit: 2812

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1, and 4-9 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1-8 of copending Application No. 10/800717 in view of of Iizuka (U.S. Patent No. 6,338,996).

Copending 10/800,717, teach or suggest all of the limitations of the instant application, but does not disclose the method wherein the metal oxide is crystallized at a volume ratio of oxygen of 10% or less. Iizuka discloses the method of crystallizing the metal oxide at a volume ratio of oxygen of 10% or less (see column 5, lines 10-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize 10% or less of oxygen in the method of 10/800717, because as Iizuka teaches it will prevent peel off.

This is a provisional obviousness-type double patenting rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Kennedy whose telephone number is (571) 272-1672. The examiner can normally be reached on Mon.-Fri. 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael S. Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer M. Kennedy
Primary Examiner
Art Unit 2812

jmk